Seattle Department of Planning and Development
— formerly the Department of Design, Construction and Land Use

CAM 234

client assistance memo

Landscaping Information

July 2001

This document contains some general information on landscaping and supplements DPD's Director's Rule on Landscape Standards (DR 13-92). Included are:

- discussion of responsibilities of the four City departments involved with landscaping;
- contact telephone numbers;
- information about container/rooftop landscaping of required open space;
- comments on saving mature vegetation;
- advice about showing required and non-required landscaping on plans; and
- a list of drought tolerant/low water usage plants.

Landscaping Responsibilities of Various City Departments

The following City of Seattle departments hold responsibilities for landscaping activities: the Department of Planning and Development (DPD), Seattle Department of Transportation, City Light, and the Parks Department. The following is a general description of each department's area of expertise:

DPD—This department requires landscaping on private property for many developments to mitigate adverse impacts (e.g., an evergreen hedge to block headlight glare from neighboring properties). Authority derives from the Land Use Code (Title 23) and SEPA (State Environmental Policy Act, Chapter 25), both of the Seattle Municipal Code.

When designing a building or an addition for which landscaping is required, consult the Land Use Code (under the zone in which your site is located) and the Director's Rule on Landscape Standards (DR 13-92), available on DPD's website at **www.seattle.gov/dpd/codes** or from from the DPD Public Resource Center, located on the 20th floor of Seattle Municipal Tower at 700 Fifth Avenue, (206) 684-8467.

For questions on submittal requirements involving landscaping for a Master Use Permit, contact the DPD Public Resource Center at (206) 684-8467 or submit your question via DPD's online "Land Use Q&A Service" at **www.seattle.gov/dpd/landuse**.

For questions on appropriate mitigation of adverse impacts caused by your project (e.g. for screening of parking, blocking headlight glare from a neighboring property or visually reducing the bulk of a project), call the DPD Land Use Planner assigned to your project at (206) 684-8875.

Seattle Department of Transportation—is the department responsible for activity in the public right-of-way, including planting strips. A Street Use Permit is required both to pave a planting strip and to plant, prune, or remove street trees, which are intended to enhance downtown and neighborhood roadways. The City Arborist at Seattle Department of Transportation reviews these permit applications.

For questions regarding a Street Use Permit or activity in the planting strip, call Street Use at (206) 684-5283 or the City Arborist at (206) 684-5047. A helpful brochure to review is the "Street Design Manual," which includes information on planting strips and approved street tree species. This document can be obtained by calling (206) 684-5283. Seattle Department of Transportation also publishes "Maintaining the Urban Forest," which contains information on street trees.

Parks—The Parks Department maintains the City's park and recreation system and is responsible for permits for individuals to prune and otherwise alter the designated greenbelts. The Park Horticulturist reviews such permit applications in order to maintain belts of natural landscape and habitat for wildlife. Additionally, there are some 21 miles of boulevards (e.g. Lake Washington Boulevard and Queen Anne Boulevard) in Seattle. Parks is responsible for maintenance of turf, planted areas and trees in the boulevards that it owns. If you have questions about pruning or similar activity in a City park, boulevard or greenbelt, call the Park Horticulturist at (206) 684-4111.

City of Seattle
Department of Planning & Development
Gregory J. Nickels, Mayor Diane Sugimura, Director

700 5th Avenue, Suite 2000
P.O. Box 34019
Seattle, WA 98124-4019
(206) 684-8600

City Light—The utility's involvement with trees stems from its maintenance work on some 3,600 miles of power lines. City Light has issued a "Tree Replacement Program" report, which lays the groundwork for City policy on tree removal and replacement. City Light has also published "The Right Tree Book" to help residents choose appropriate trees near power lines. The book is free to City Light customers, otherwise it may be purchased for $3.00. (Call Vegetation Management at (206) 386-1733 for copies).

Resources

The following is a list of further resources for assistance with answers to landscaping questions:

King County Soil & Water Conservation
Soil test: (425) 226-4867

King County Cooperative Extension
Soil kit, Master Gardener: (206) 296-3440

King County Noxious Weed Control Program
(206) 296-0290

City of Seattle Conservatory (Volunteer Park)
(206) 684-4743

University of Washington Arboretum
Trees: (206) 543-8800

University of Washington Center for Urban Horticulture
(206) 685-8033

University of Washington Department of Landscape Architecture
(206) 543-9240

Container Landscaping

If you are planning container landscaping (e.g., on rooftops), you should be aware of the following considerations:

- Soil in containers dries out much more rapidly so more frequent watering is necessary
- More nutrient feeding is necessary
- The soil in containers will gain and lose heat more rapidly than in the ground
- Plants chosen for container gardening must be selected with care since they must be able to survive in more difficult circumstances (more wind, more extreme changes in both air and soil temperature, etc.)
- Trees will not live as long, leading to more frequent replacement and higher maintenance costs
- Minimum depth of soil in containers should be 12 inches for ground cover, 24 inches for shrubs and 48 inches for trees, but greater soil depth may be needed for particular species.
- Lightweight soil mixtures, which are more expensive than regular soil, can help lighten the weight load
- Structural handling of the weight load of the landscaping must be considered at the beginning of the design process. The containers must be an integral part of the building design in order to accommodate drainage, irrigation and weight, among other factors.

Saving Existing Trees

Saving existing healthy trees may be to your advantage. Trees up to 12 inches in diameter can be, if necessary, removed, stored and replanted after construction is completed. Property values, aesthetics and environmental mitigation may all be enhanced considerably by retention of larger trees as compared to the smaller sized trees usually planted after construction. Contact the City Arborist to discuss this concept if you have questions.

Consider the following article from the July 1989 Land Use Digest issued by the Urban Land Institute:

"Buyers of new homes are taking builders to court for damaging mature specimen trees during construction, and other buyers are adding liability clauses to building contracts to insure against loss of mature plantings. A Gallup poll conducted for Weyerhaeuser Corporation found that buyers estimate that trees contribute between 7 and 27 percent to the appraised value of property. According to a formula devised by the International Society of Arboriculture in Urbana, Illinois, a tree's value is calculated to be $27 per square inch, based on its diameter at 4.5 feet above ground. This would make a red oak with a 25-inch diameter worth about $12,200. Liability may extend for some time after closing; it may take as long as five years for a tree damaged during construction to die."

(***Builder***, May 1989; Hanley-Wood, Inc., 655-15th Street N.W., Suite 475, Washington, D.C. 20005.)

Trees in Parking Lots

A study of the trees in four Metro Park and Ride lots in Seattle revealed some specific problems in both the planting and maintenance of trees in a paved environment.

Parking lot soils are required to be highly compacted (95%), but most plants need 30% or more pore space to maintain vigorous growth. Adding topsoil alone did not solve the problem because the subsoil is so highly compacted that water resists drainage. The article, in ***Grounds Maintenance*** by Christina Pfeiffer, recommends the following:

- Test soil aeration using bulk density measurements. As a guideline, the density should be no greater than 1.3 grams/cubic centimeter (fine soils) to 1.4 grams/cubic centimeter (coarse soils).
- Use larger planting beds or berms to increase the effective rooting area.
- Till imported topsoils into the existing subsoil to create a gradual transition layer instead of a distinct soil interface.
- Design permanent irrigation systems into all plantings; restricted rooting areas, combined with reflected heat and dry summers create extreme drought stress in parking-lot landscapes.

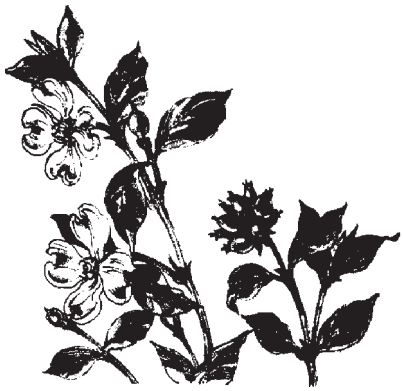
Landscaping Plans and "Required" Landscaping

ALL landscaping shown on an applicant's plan is treated as required, unless clearly marked by the applicant as non-required. To avoid potential problems, applicants should **NOT** include optional landscaping elements on their plans. When an inspector reviews the approved landscape plan for final site approval, all landscaping shown on the plan must be present on the site.

Access to Information

Links to electronic versions of DPD **Client Assistance Memos (CAMs), Director's Rules**, and the **Seattle Municipal Code** are available on the "Publications" and "Codes" pages of our website at **www.seattle.gov/dpd.** Paper copies of these documents are available from our Public Resource Center, located on the 20th floor of Seattle Municipal Tower at 700 Fifth Avenue in downtown Seattle, or by calling (206) 684-8467.

Drought Tolerant/Low Water Usage Plant List



INTRODUCTION

Many of the ornamental plants that have been traditionally used in Washington do not possess the virtue of drought tolerance. Even during normal summers, plants like rhododendrons, azaleas, Eastern dogwoods, Japanese maples, magnolias and others that evolved in summer rainfall areas of the world, require a considerable amount of irrigation.

Periodic droughts and the ever increasing human pressure on available water resources are problems that need to be addressed at all levels. Restrictions on the use of water for lawns and landscaping have been put into place in the past and will doubtless be a factor in the future. At the very least, the cost of water will most certainly rise.

The trees, shrubs, vines, and herbaceous plants listed on the following pages have been shown by experience here and in other parts of the world to be low water use plants. After a period of establishment, the woody plants should be able to grow and prosper with little or no water during the summer. Even the herbaceous plants (annuals, biennials and perennials) listed can endure long periods between irrigations once they are established.

Native plants or non-invasive species are highly recommended. For more information and descriptions of these plants, consult a good plant manual, such as the ***Sunset New Western Garden Book***.

In addition to plants that need little water, there are also a number of management techniques which can help to cut down water usage in all landscapes. Mulching, weed control and drip/trickle irrigation systems can fit into a converted effort of water conservation.

Evaporation from the soils surface is one of the more obvious ways that moisture is lost to plants. Covering the soil surface under and around plants with a layer of leaves, bark, wood chips, wood shavings, sawdust, hay, grass clippings, compost, etc., when the soil has water in it, will go a long way in preventing it from evaporating later. Large trees and shrubs can easily use four to six inches of loose organic mulches. Smaller plants should get less.

Weed control is most important. The fewer competitive plants there are in a landscape, the more water available for the desirable species.

Nurseries and garden centers have various sorts of drip/trickle irrigation system kits and components for sale. These can easily be installed on existing outdoor faucets with no tools necessary.

*** NOTE: Items in this list marked with an asterisk are considered invasive or possible invasive. For more information contact the King County Noxious Weed Control Program at (206) 296-0290.**

TREES

Scientific name	Common name
Acer ginnala	Amur Maple
Acer glabrum	Rocky Mountain Maple
Acer grandidentatum	Bigtooth Maple
Acer negundo	Box Elder
Aesculus californica	California Buckeye
Ailanthus altissima *	Tree-of-Heaven *
Albizzia julibrissin rose	Silktree
Aralia elata	Japanese Angelica tree
Arbutus menziesii	Madrone
Arbutus unedo	Strawberry tree
Broussonetia papyrifera	Paper Mulberry
Calocedrus decurrens	Incense Cedar
Castanea mollissima	Chinese Chestnut
Catalpa speciosa	Western catalpa
Cedrus atlantica	Atlas cedar
Cedrus deodara	Deodar cedar
Celtis australis	European hackberry
Celtis occidentalis	Common hackberry
Celtis reticulata	Western hackberry
Celtis sinensis	Chinese hackberry
Cercis occidentalis	Western redbud
Cecocarpus betuloides	Birch-leaf Mountain Mahogany
Cercocarpus ledifolius	Curl-leaf Mountain Mahogany
Cornus Nutallii	Western dogwood
Chrysolepis chrysophylla	Golden chinkapin
Continus obovatus	American smoketree
Craetaegus sp. *	Hawthorn species *
Cupressocyparis x Leylandii	Leyland cyprus
Cupressus glabra	Arizona cypress
Eucalyptus niphophila	Snow gum
Ficus carica	Common fig
Fraxinus oxycarpa 'Raywood'	Claret ash
Fraxinus pensylvanica cvs.	Green ash cultivars
Ginkgo biloba	Ginkgo
Gleditsia triacanthos inerm	Thornless Honey Locust
Ilex aquifolium *	English holly *
Juglans hindsii	California Black Walnut
Juglans sp.	other walnut species
Juniperus sp.	Juniper species
Koelreuteria paniculata	Golden Rain-tree
Laurus nobilis	Mediterranean laurel
Ligustrum lucidum	Glossy privet
Lithocarpus densiflorus	Tanoak
Maclura pomifera	Osage orange
Morus alba	White mulberry
Morus nigra	Black mulberry
Phellodendron amurense	Amur cork tree
Photinia serrulata	Chinese photinia
Pinus sp.	most pines
Platanus x acerifolia	London planetree
Prunus laurocerasus	Cherry laurel
Prunus lusitanica	Portuguese laurel
Pseudotsuga menziesii	Douglas fir
Quercus chrysolepis	Canyon live oak
Quercus garryana	Garry oak
Quercus ilex	Holly oak
Quercus kelloggii	California black oak
Quercs lobata	Valley oak
Quercus sp.	many other oak species
Robinia pseudoacacia	Black locust
Sambucus caerulea	Blue elderberry
Sassafras albidum	Sassafras
Sequoiadendron giganteum	Giant sequoia
Sophora japonica	Japanese pagoda tree
Sorbus aucuparia	European Mountain ash
Thuja plicata	Western red cedar
Tilia tomentosa	Silver linden
Ulmus parvifolia	Chinese elm
Umbellularia californica	Oregon myrtle
Zelkova serrata	Japanese zelkova

SHRUBS, VINES & GROUND COVERS

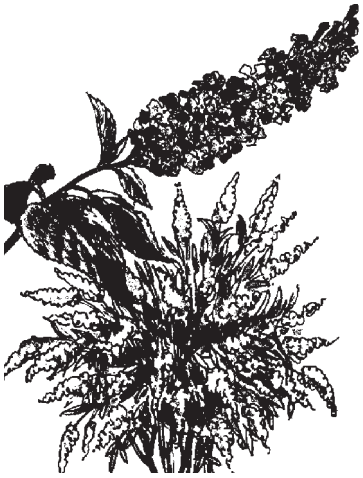
Scientific name	Common name
Abelia grandiflora	Glossy Abelia
Amelanchier alnifolia	Western serviceberry
Arctostaphylos sp.	Manzanita species
Aronia arbutifolia	Red chokeberry
Aronia melanocarpa	Black chokeberry
Aronia prunifolia	Purple chokeberry
Berberis sp.	Barberry species
Buddleia alternifolia *	Fountain butterfly bush *
Buddleia davidii *	Common butterfly bush *

SHRUBS, VINES & GROUND COVER
(continued)

Buxus microphylla japonica	Japanese boxwood
Callicarpa sp.	Beautyberry species
Calycanthus occidentalis	Western spice bush
Campsis radicans	Trumpet creeper
Caragana arborescens	Siberian Pea-shrub
Carpenteria californica	Bush anemone
Ceanothus sp.	Most ceanothus species
Chaenomeles sp. + cvs.	Flowering quince species and cultivars
Cistus sp. + cvs.	Rock rose species and cultivars
Clematis armandii	Evergreen clematis
Comptonia peregrina	Sweet fern
Cornus stolonifera	Red Osier dogwood
Corylus sp. + cvs.	Filbert species and cultivars
Continus coggygria	European smoketree
Cotoneaster sp.	Cotoneaster species
Deutizia sp.	Deutzia species
Eleagnus sp.	All eleagnus species
Escallonia sp.	Escallonia species
Euonymus sp.	Euonymus species
Forsythia sp.	Forsythia species
Garrya elliptica	Coast silktassel
Gaultheria shallon	Salal
*Genista sp. **	Brooms *
Hebe sp. + cvs.	Hebe (veronica) species and cultivars
Helianthemum nummularium	Sunrose
Hippophae rhamnoides	Sea buckthorn
Holodiscus discolor	Ocean spray
Hypericum calycinum	St. Johnswort
Juniperus sp.	Juniper species
Kerria japonica	Kerria
Kolkwitzia amabilis	Beauty bush
Lavandula sp.	Lavender species
Ligustrum sp.	Privet species
Lonicera sp.	Honeysuckle species
Lupinus arboreus	Tree lupines
Mahonia aquifolium & cvs.	Oregon grape and cultivars
Mahonia nervosa	Longleaf mahonia
Manonia pinnata	California holly grape
Mahonia repens	Creeping mahonia
Myrica californica	Pacific wax myrtle
Osmanthus sp.	Osmanthus species
Paxistima myrsinites	Oregon box
Philadelphus lewisii	Western mock orange
Phillyrea latifolia	Mock privet
Photinia x fraseri	Fraser photinia
Photinia glabra	Japanese photinia
Physocarpus sp.	Ninebark species
Polygonum aubertii	Silver lace vine
Potentilla fruticosa + cvs.	Shrubby cinquefoil
Prunus laurocerasus cvs.	Shrubby cherry laurels
Quercus sadleriana	Sadler's oak
Quercus vaccinifolia	Huckleberry oak
Pyracantha sp.	Firethorn species
Raphiolepis umbellata	Yeddo hawthorn
Rhamnus alaternus	Italian buckthorn
Rhamnus californica	California coffeeberry
Rhamnus frangula	Alder buckthorn
Rhodotypos scandens	Jet bead
Rhus copallina	Shining sumac
Rhus glabra	Smooth sumac
Rhus typhina	Staghorn sumac
Ribes alpinum	Alpine currant
Ribes aureum	Golden currant
Ribes sanquineum	Red flowering currant
Ribes speciosum	Fuchsia flowering gooseberry
Robinia hispida	Rose acacia
Rose eglanteria	Eglantine rose
Rosa harisonii	Harison's yellow rose
Rosa rugosa	Rugosa rose
Rosmarinus officinalis	Rosemary
Santolina chamaecyparissus	Lavender cotton
Shepherdia sp.	Buffalo berries
Spiraea sp.	Spiraea species
Stranvaesia davidiana	Stranvaesia
Symphoricarpos sp.	Snowberry species
Syringa sp.	Lilacs
Taxus sp.	Yews
Teucrium sp.	Germanders
Vaccinium ovatum	Evergreen huckleberry
Vaccinium parvifolium	Red huckleberry
Viburnum sp.	Viburnums
Vitex agnus-castus	Chaste tree
Vitus sp.	Grapes
Wisteria sp.	Wisterias
Yucca sp.	Yuccas

PERENNIALS, ANNUALS & BIENNIALS

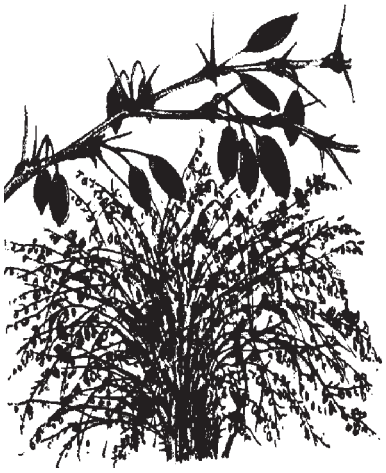
Scientific name	Common name	*A,B or P
Achillea sp.	Yarrows	P
Alcea rosea	Hollyhock	B
Alyssum sp.	Alyssums	P
Amaryllis belladonna	Belladonna lily	P
Aquilegia sp.	Columbines	P
Arctotheca calendula	Cape weed	A
Arctotis sp.	African daisies	A
Argemone sp.	Prickly poppies	A
Armeria sp.	Thrifts, sea pinks	P
Artemesia sp.	Wormwoods	P
(except for *absinthium*, which is a noxious weed)		
Baptisia australis *	False indigo *	P
Brodiaea sp.	Brodiaeas	P
Catananche caerulea	Cupid's dart	P
Centaurea sp.	Cornflower, Sweet sultan	A
Chrysanthemum frutescens	Marguerite	A
Chrysanthemum parthenium	Feverfew	P
Cleome spinosa	Spider flower	A
Coreopsis sp.	Coreoposis	A & P
Cortaderia selloana	Pampas grass	P
Cosmos sp.	Cosmos	A
Cynoglossum amabile	Chinese Forget-me-not	B
Cynoglossum grande	Western hound's tongue	P
Dianthus barbatus	Sweet William	A & B
Dianthus plumarius	Cottage pink	P
Dimorphotheca sp.	Cape marigolds	A
Epimedium sp.	Epimediums	P
Erigeron glaucus	Beach aster	P
Erysimum sp.	Wallflowers	A & P
Escholzia californica *	California poppy *	A & P
Fragaria chiloensis	Sand strawberry	P
Gaillardia sp.	Blanket flowers	A & P
Gerbera jamesonii	Transvaal daisy	A
Gomphrena globosa	Globe amaranth	A
Gypsophila paniculata	Baby's breath	P
Helichrysum bracteatum	Strawflower	A
Helleborus lividus corsicus	Corsican hellebore	P
Helleborus orientalis	Lenten rose	P
Hemerocallis sp. + cvs.	Daylilies	P
Ipomaea sp.	Morning glories	A
Iris foetidissima	Gladwin iris	P
Iris sp.	Bearded irises	P
Iris sp.	Pacific Coast species	P

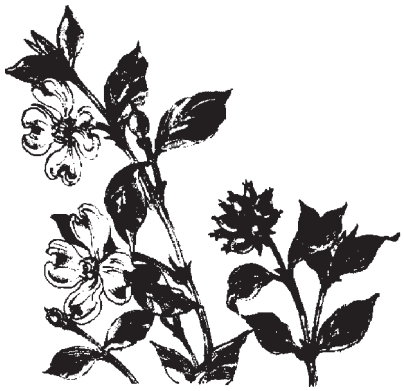


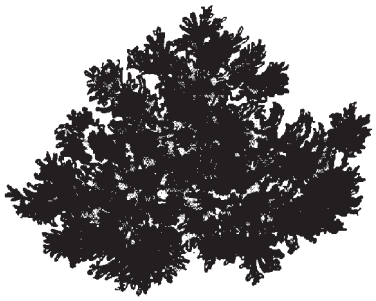
* **A = Annuals**
B = Biennials
P = Perennials

PERENNIALS, ANNUALS & BIENNNIALS (continued)

Scientific name	Common name	*B,P or A
Kniphofia uvaria	Red hot poker	P
Layia platyglossa	Tidytips	A
Liatris sp.	Gayfeathers	P
Limonium sp.	Sea lavenders	A & P
Linum sp.	Flax	A & P
Lithodora diffusa	Lithodora	P
Lobularia maritima	Sweet alyssum	A
Lotus berthelotti	Parrot's beak	A
Marrubium vulgare	Horehound	P
Narcissus sp.	Daffodils	P
Oenothera sp.	Evening primroses	B & P
Origanum sp	Marjorams	P
Osteospermum sp.	African daisies	A
Papaver sp.	Poppies	A & P
Pelargonum sp.	Geraniums	A
Pennisetum selaceum	Fountain grass	P
Phlomis fruticosa	Jerusalem sage	P
Phlox drummondii	Annual phlox	A
Portulaca grandiflora	Moss rose	A
Potentilla sp. * (except for *vecta)*	Cinquefoils *	P
Romneya coulteri	Matilija poppy	P
Rudbeckia sp.	Coneflowers	A, B & P
*Salvia sp.** (except for *pratensis*/meadow clary, *sclarea*/clary, and *aethiopis*/mediterraen)	Sages *	A & P
Sedum sp.	Stonecrops	P
Sempervivum sp.	Houseleeks	P
Senecio cineraria	Dusty miller	A & P
Sisyrinchium sp.	Blue & yellow eyed grasses	P
Thymus sp.	Thymes	P
Tropaeolum sp.	Nasturtiums	A & P
Verbascum sp.	Mulleins	B
Verbena sp. *	Verbenas *	A & P
Vinca rosea	Madagascar periwinkle	A
Yucca sp.	Yuccas	P
Zauschneria sp.	California Fuchsias	P







*** A = Annuals**
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